



Power Plant Controller (PPC)

Master your plant operations with intelligent
control and seamless integration

PROTASIS® PPC delivers precise control of active
and reactive power for utility-scale, renewable,
hybrid, and industrial power plants

 **PROTASIS**
engineering & consulting
with power, we perform

CHALLENGES & MARKET NEEDS

Complexity is increasing in modern power plants and industrial facilities

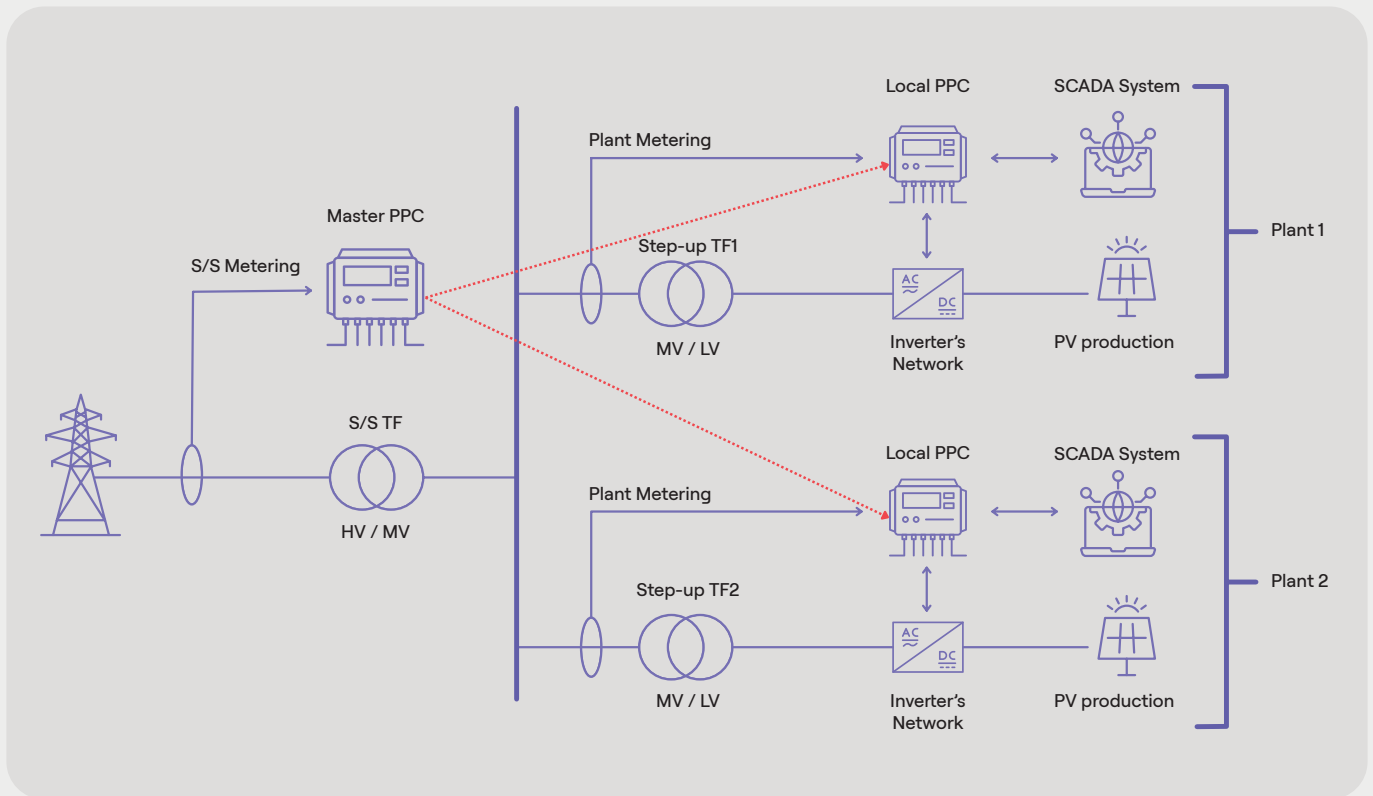




Operators of power and industrial plants face multiple challenges: fluctuating generation, active & reactive power management, frequency stability, and operational compliance. High availability and precise control are critical to avoid costly downtime or penalties.

Key challenges:

- Precise active and reactive power control at the Point of Common Coupling (PCC)
- Compliance with the latest RfG network code (Requirements for Generators - EU 2016/631)
- Adapting to comply with different grid connection codes
- Frequency regulation and over-/under-frequency response
- Coordination of multiple inverters and heterogeneous assets
- Secure, real-time communication with SCADA/Energy Management Systems (EMS)
- Operation in both utility and industrial environments
- High availability, fault-tolerant operation, seamless mode transitions



03 | Technical Highlights:

- Two-stage proportional integral controllers (input/output)
- Compliance with RfG network code (Requirements for Generators – EU 2016/631)
- Adaptive design to comply with different grid connection codes and country-specific requirements
- Seamless mode switching without output fluctuations
- Dynamic integration with inverters and industrial loads
- Supports operations via both the local owner's SCADA and the remote TSO Energy Management System
- Hardwired interfaces: BI/BO, AI/AO cards
- Protocol interfaces: IEC-61850, MODBUS, IEC-60870-5-104/101, DNP3
- High-availability architecture for uninterrupted operations
- Scalable and modular for future expansions

04 | Applications:

- Utility-scale hybrid power plants
- Industrial plants requiring precise active/reactive power management
- Microgrids with dynamic load and generation coordination
- Plants requiring seamless local/remote control and mode transitions
- Facilities integrating multiple inverter types or third-party assets

Precise Control and Optimized Performance for every plant asset

Why choose PROTASIS® PPC?



Efficiency & Optimization

- Reduces energy losses and operational inefficiencies
- Optimizes active and reactive power dispatch
- Enhances inverter utilization and plant performance
- Supports dynamic load management in industrial environments



Reliability & Stability

- Certified by SGS (NTS v2.1) and compliant with EU Regulation 2016/631
- Seamless transition between control modes
- High-availability and redundant architecture
- Reliable response to frequency deviations and over-frequency events



Flexibility & Scalability

- Modular design adaptable to any industrial or utility plant
- Supports IEC-61131 function blocks and various communication protocols
- Integrates multiple inverter types and third-party assets
- Scales from small industrial plants to utility-scale power plants



Advanced Monitoring & Control

- Full SCADA and EMS integration with local/remote visibility
- Real-time monitoring, alarms, and historical data analysis
- Optimized energy tracking and power limitation
- Cybersecure architecture for safe industrial and grid operation

PROTASIS, and its operations, are certified according to the latest applicable international standards, regarding the respective Management Systems



9001 : 2015



14001 : 2015



37001 : 2017



45001 : 2018



27001 : 2022

SUCCESS STORY

PROTASIS® PPC installed in 750 RES plants, compliant with Greek DNO requirements

The PROTASIS® Power Plant Controller (PPC), has been deployed across Greece to meet HEDNO’s legislative requirements introduced in 2024. Designed for remote monitoring and control of RES plants, PPC ensures full compliance with national regulations and the RfG code.



01 | Project Highlights:

- Operational at nearly 750 sites connected to the distribution network
- Full compliance with legislative requirements set by the Greek DNO and the RfG code
- Future-proof design supporting evolving grid and network needs
- Local and remote control via Distribution Operator and RES Aggregator control centers
- Seamless integration of inverters, measurement devices, and software from internationally recognized manufacturers
- Rapid and straightforward installation, supported by technical guidance and expert support
- Comprehensive training and after-sales services for operators and technicians



02 | Testing & Validation:

Communication and functional tests were performed in collaboration with HEDNO across multiple sites, ensuring full compatibility with the DNO’s Distribution Management System. These tests confirmed optimal system performance, regulatory compliance, and seamless integration into existing infrastructure.



03 | Project Impact:

The project demonstrates how PROTASIS® PPC can reliably manage distributed RES plants at scale while maintaining compliance with evolving grid codes, delivering operational efficiency, and enabling secure, remote supervisory control.

Take full control of your
plant operations with
PROTASIS® PPC, delivering
compliance, reliability, and
intelligent performance in
any environment



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